

AMENDMENTS TO THE CLAIMS

The following listing of claims will replace all prior versions and listings of claims in the application.

LISTING OF CLAIMS

1. (Currently Amended) A system to provide a determination of an alignment of a prosthetic bearing in an acetabular prosthesis, the system comprising:

an acetabular prosthesis having a threaded receiving bore;

a trial bearing liner;

a plurality of attachment ~~devices~~ passages defined by the trial bearing liner each attachment passage located a different distance from an apex of said trial bearing liner; and

an attachment member having a length to pass through at least one of the attachment passages and interconnect the acetabular prosthesis at said threaded receiving bore and the trial bearing liner;

wherein the attachment member is moveable between a locating position and a fastened position to selectively ~~and operably~~ interconnect said trial bearing liner to the acetabular prosthesis via at least one of said plurality of attachment ~~devices~~ passages;

wherein said trial bearing liner is only moveable ~~[[in]] to rotate one-degree of freedom~~ around an axis defined by said attachment member in said locating position and substantially immobile relative to the acetabular prosthesis in said fastened position.

2. (Currently Amended) The system of claim 1, wherein the acetabular prosthesis includes:

an acetabular cup generally defining a portion of a hollow sphere and defining ~~[[a]]~~ the threaded receiving bore, said attachment member engaging said acetabular cup at said the threaded receiving bore in said locating position and said fastened position.

3. (Currently Amended) The system of claim 2 wherein said attachment member includes:

an attachment end engaged with said the threaded receiving bore;

a central portion extending through at least one of said plurality of attachment ~~devices~~ passages; and

an engagement end operable to move said attachment member between said locating position and said fastened position.

4. (Currently Amended) A system to provide a determination of an alignment of a prosthetic bearing in an acetabular prosthesis, the system comprising:

a trial bearing liner or trial shell defining an attachment device ~~thereon~~ passage therethrough;

an attachment member moveable between a locating position and a fastened position to selectively and operably interconnect said trial bearing liner or trial shell to the acetabular prosthesis via said attachment device ~~passage~~ passage; and

a ~~locking member adapted~~ lock ring to engage said attachment member to ~~operably~~ couple said attachment member to either said trial bearing liner or trial shell prior to the attachment member moving to the locating position or the fastened position;

wherein said trial bearing liner or trial shell is only moveable ~~in one degree of freedom to rotate~~ around an axis defined by said attachment member in said locating position and substantially immobile relative to the acetabular prosthesis in said fastened position;

wherein said attachment member includes:

an attachment end engagable with a bore defined by the acetabular prosthesis;

a central portion extending through said attachment device ~~passage~~ passage; and

an engagement end for manipulating said attachment member between said locating position and said fastened position.

5. (Currently Amended) The system of claim 1 wherein the acetabular cup includes an outer rim defining an acetabular cup plane and said trial bearing liner includes an outer rim defining a trial bearing liner plane, wherein the location of at least one of said plurality of attachment ~~devices~~ passages determines a predetermined angle said trial bearing liner plane is oriented relative to the acetabular cup plane.

6. (Original) The system of claim 5 wherein said predetermined angle is between 0 and 40 degrees.

7. (Currently Amended) The system of claim ~~[[1]]~~ 4 wherein each of the trial bearing liner or the trial shell define a plurality of attachment passages therethrough and each of said plurality of attachment ~~devices~~ include a passage defined by said trial bearing liner for receiving said attachment member passages are offset a different distance from an apex of the trial bearing liner or the trial shell.

8. (Currently Amended) A system to provide a determination of an alignment of a prosthetic bearing in an acetabular prosthesis, the system comprising:

a first trial bearing liner ~~defining~~ having a first upper rim that defines a first trial bearing liner plane and defining a first attachment device ~~passage extending through the first trial bearing liner;~~

a second trial bearing liner ~~defining~~ having a second upper rim that defines a second trial bearing liner plane and defining a second attachment device ~~passage extending through the second trial bearing liner;~~ and

an attachment member separately extendable through each of the first attachment passage and the second attachment passage and ~~moveable between a locating position and a fastened position to selectively and alternatively interconnect;~~

wherein the attachment member interconnects each of said first and second trial bearing liner to the acetabular prosthesis via said respective attachment ~~device, passage;~~

wherein each of said first and second trial bearing liner ~~moveable in one degree of freedom~~ rotates around an axis defined by said attachment member when said attachment member is in said locating position;

wherein said first trial bearing liner plane is oriented at a first angle relative to an acetabular cup plane defined by an acetabular cup upper rim in said locating position and said second trial bearing liner plane is oriented at a second angle relative to said acetabular cup plane in said locating position[.];

wherein said second angle ~~distinct~~ is different from said first angle.

9. (Currently Amended) The system of claim 8 wherein said first attachment ~~device~~ passage is defined at a ~~distinct~~ first location on a dome of said first trial bearing liner from said second attachment ~~device~~ passage defined at a different second location on a dome on said second trial bearing liner.

10. (Previously Presented) The system of claim 8, wherein the acetabular prosthesis includes:

an acetabular cup generally defining a portion of a hollow sphere and defining a bore, said attachment member engaging said bore in said locating position and said fastened position.

11. (Currently Amended) The system of claim 8, wherein said attachment member includes:

an attachment end operable to engage said acetabular cup via said bore;
a central portion extending through said attachment ~~device~~ passage; and
an engagement end for manipulating said attachment member between said locating and said fastened position.

12. (Currently Amended) A system to provide a determination of an alignment of a prosthetic bearing in an acetabular prosthesis, the system comprising:

a first trial bearing liner defining a first trial bearing liner plane ~~[[and]]~~ in part by defining a first attachment device throughbore at a first position offset a first radial distance from a first apex of the first trial bearing liner;

a second trial bearing liner defining a second trial bearing liner plane ~~[[and]]~~ in part by defining a second attachment device throughbore at a second position offset a second radial distance different from the first radial distance from a second apex of the second trial bearing liner;

an attachment member moveable between a locating position and a fastened position to selectively and alternatively interconnect each of said first and second trial bearing liner to the acetabular prosthesis ~~[[at]]~~ through said respective attachment ~~device throughbore~~, each of said first and second trial bearing liner moveable ~~in one degree of freedom to only rotate~~ around an axis defined by said attachment member in said locating position; and

a locking member adapted to engage said attachment member to operably couple said attachment member and one of said first and second trial bearing liner;

wherein said first trial bearing liner plane is oriented at a first angle relative to an acetabular cup plane defined by an upper rim of an acetabular cup in said locating position and said second trial bearing liner plane is oriented at a second angle relative to said acetabular cup plane in said locating position, said second angle being distinct from said first angle.

13. (Currently Amended) The system of claim 8, further comprising a third trial bearing liner defining a third trial bearing liner plane and defining a third attachment device passage, said third trial bearing liner plane defining a third distinct angle relative to said acetabular cup plane from said first and second trial bearing liner plane when assembled in said locating position.

14. (Original) The system of claim 13 wherein said first, second and third angle is between 0 and 40 degrees.

15. (Previously Presented) The system of claim 8 wherein said first or second attachment device ~~defines a passage through said first and second trial bearing liner for allowing~~ passages allow said attachment member to pass through said first or second trial bearing liner.

16. (Currently Amended) A system to provide a determination of an alignment of a prosthetic, the system comprising:

an acetabular prosthesis operable to be implanted;

a trial bearing liner defining an attachment ~~device~~ passage;

an attachment member moveable between a locating position and a fastened position to selectively and operably interconnect said trial bearing liner to said acetabular prosthesis via said attachment ~~device~~ passage; and

said acetabular prosthesis having an acetabular cup generally defining a portion of a hollow sphere and defining a threaded bore surrounded by a depression, said attachment member engaging said acetabular cup via said bore in said locating position and said fastened position;

wherein said attachment member passes through and engages said attachment passage in said trial bearing liner and said threaded bore in said acetabular cup;

wherein said trial bearing liner is moveable ~~in one degree of freedom to~~ only rotate around an axis defined by said attachment member in said locating position and substantially immobile relative to said acetabular prosthesis in said fastened position.

17. (Canceled)

18. (Currently Amended) The system of claim 16 wherein said attachment member includes:

an attachment end engaged with said acetabular cup via said threaded bore;

a central portion extending through said attachment device passage; and

an engagement end operable to move said attachment member between said locating position and said fastened position.

19. (Currently Amended) A system to provide a determination of an alignment of a prosthetic, the system comprising:

an acetabular prosthesis having a threaded bore formed in a wall of the acetabular prosthesis;

a trial bearing liner defining an attachment ~~device~~ throughbore;

an attachment member moveable between a locating position and a fastened position to selectively and operably interconnect said trial bearing liner to said acetabular prosthesis via said attachment ~~device~~ throughbore; and

a ~~locking member~~ lock ring adapted to engage said attachment member to operably couple said attachment member and said trial bearing liner prior to engaging the threaded bore;

wherein said trial bearing liner is moveable in one degree of freedom around an axis defined by said attachment member in said locating position and substantially immobile relative to said acetabular prosthesis in said fastened position;

wherein said attachment member includes:

an attachment end engagable with ~~[[a]]~~ the threaded bore defined by formed in said acetabular prosthesis;

a central portion extending through said attachment ~~device~~ throughbore; and

an engagement end operable to move said attachment member between said locating and said fastened position.

20. (Currently Amended) The system of claim ~~[[17]]~~ 16 wherein the acetabular cup includes an outer rim defining an acetabular cup plane and said trial bearing liner includes an outer rim defining a trial bearing liner plane, wherein the location of said attachment ~~device~~ passage determines a predetermined angle said trial bearing liner plane is oriented from the acetabular cup plane.

21. (Original) The system of claim 20 wherein said predetermined angle is between 0 and 40 degrees.

22. (Canceled)

23. (Currently Amended) A method of implanting an acetabular prosthesis in an acetabulum and providing a liner in the acetabular prosthesis in a selected orientation, the method comprising:

implanting the acetabular prosthesis having an acetabular rim defining an acetabular plane and a throughbore defining a throughbore axis;

selecting a first trial bearing liner wherein said first trial bearing liner has an upper rim defining a first trial liner plane having first angle relative to a first axis defined by a first attachment passage extending through said first trial bearing liner, wherein the attachment passage is offset from an apex of the first trial bearing liner;

disposing ~~[[a]]~~ said first trial bearing liner in said implanted acetabular prosthesis, ~~said first trial bearing liner having an outer dimension defining a first plane and extending at~~ to form a first trialing angle from said implanted acetabular prosthesis between said acetabular plane and said first trial liner plane;

~~orienting rotating~~ said first trial bearing liner having one degree of freedom in a first orientation around said throughbore axis to form a plurality of trialing orientations between said acetabular plane and said first trial liner plane;

fixing said first trial bearing liner ~~in said first orientation~~ at one of said trialing orientations with an attachment member that selectively couples said first trial bearing liner to the acetabular prosthesis;

locking the attachment member to said first trial bearing liner; and

moving a femur through a range of motion relative to the first trial bearing liner after fixing said first trial bearing liner at one of said trialing orientations.

24. (Currently Amended) The method of claim 23 further comprising:

removing said first trial bearing liner;

disposing a second trial bearing liner in said acetabular prosthesis, said second trial bearing liner having an ~~outer dimension~~ upper rim defining a second plane and extending at a second angle from said acetabular prosthesis, said second angle being distinct from said first angle;

~~orienting~~ rotating said second trial bearing liner ~~having one degree of freedom in to form a plurality of a second orientation~~ trialing orientations;

fixing said second trial bearing liner in ~~said second orientation~~ one of said plurality of second trialing orientations; and

moving said femur through a range of motion relative to said second trial bearing liner.

25. (Canceled)

26. (Currently Amended) The method of claim ~~[[25]]~~ 23 wherein fixing the first trial bearing liner includes actuating said attachment member into a fastened position wherein said first trial bearing liner is substantially immobile relative to the acetabular prosthesis.

27. (Currently Amended) The method of claim 23, further comprising:

placing a head extending from said femur in said first trial bearing liner;

~~moving said femur through a range of motion while maintaining said head in said first trial bearing liner; and~~

determining the presence of contact between said femur and said first trial bearing liner.

28. (Currently Amended) A method of implanting an acetabular prosthesis in an acetabulum and providing a liner in the acetabular prosthesis in a selected orientation, the method comprising:

implanting the acetabular prosthesis, the acetabular prosthesis defining an acetabular cup plane;

disposing a first trial bearing liner in said implanted acetabular prosthesis, said first trial bearing liner having an outer dimension defining a first plane and extending at a first angle relative to said implanted acetabular prosthesis;

~~orienting~~ rotating said first trial bearing liner ~~having one degree of freedom in a first orientation~~ around a first attachment passage axis to generate a first orientation;

fixing said first trial bearing liner in said first orientation;

determining the presence of contact between a femur and said first trial bearing liner; and

replacing said first trial bearing liner with a second trial bearing liner in said implanted acetabular prosthesis based on said determination, said second trial bearing liner having an outer dimension defining a second plane and extending at a second angle relative to said acetabular cup plane due to a second attachment passage axis, said second angle distinct from said first angle.

29. (Currently Amended) The method of claim 28 wherein determining the presence of contact includes:

placing a head extending from said femur in said first trial bearing liner;
moving said femur through a range of motion while maintaining said head in said first trial bearing liner; and
~~_____ determining the presence of contact between said femur and said first trial bearing liner.~~

30. (Canceled)

31. (Currently Amended) The method of claim 28 wherein disposing a first trial bearing liner includes:

placing said first trial bearing liner in the acetabular prosthesis;
aligning a first attachment ~~device~~ passage defined by said first trial bearing liner with a bore defined by the acetabular prosthesis; and
engaging the acetabular prosthesis with an attachment member at said bore and through a first attachment passage that is offset from an apex of the first trial bearing liner and that defines the first attachment passage axis, thereby coupling said first trial bearing liner with the acetabular prosthesis.

32. (Previously Presented) The method of claim 31 wherein fixing said first trial bearing liner includes actuating said attachment member into a fastened position wherein said first trial bearing liner is substantially immobile relative to the acetabular prosthesis.

33. (Currently Amended) The method of claim 31 wherein replacing said first trial bearing liner includes:

removing said attachment member from engagement with said first trial bearing liner and the acetabular prosthesis;

removing said first trial bearing liner from the acetabular prosthesis;

placing said second trial bearing liner in the acetabular prosthesis;

aligning a second attachment ~~device~~ passage defined by said second trial bearing liner with said bore; and

engaging the acetabular prosthesis with said attachment member at said bore through a second attachment passage defining the second attachment passage axis thereby coupling said second trial bearing liner with the acetabular prosthesis.

34. (New) The system of Claim 16, wherein the trial bearing liner defines a plurality of the attachment passages each at different radial positions from an apex of the trial bearing liner;

wherein when interconnected with the acetabular cup allow a trial liner plane defined by the trial bearing liner to be positioned at a different angle relative to an acetabular cup plane defined by the acetabular cup.

35. (New) The method of Claim 23, further comprising:

passing the attachment member through a second attachment passage to connect the first trial bearing liner and the implanted acetabular prosthesis;

wherein the second attachment passage allows the first trial bearing liner to rotate around a second attachment passage axis different than a first attachment passage axis and define a second angle of the first trial liner plane relative to the acetabular plane.